

PROJECT DIMENSIONS: A channel 300 feet wide, and dredged to -17 feet MLLW, approx, 8,600 LF.

SOUNDINGS are in feet referred to Mean Lower Low Water (MLLW) and were taken on 20 April 2004.

MEAN LOWER LOW WATER (MLLW), National Tidal Datum Epoch (NTDE) of 1983-2001, was determined by the National Ocean Service (NOS) at Sewells Point and is 1.64 feet below the North American Vertical Datum of 1988.

MEAN RANGE OF TIDE is 2.43 feet at Sewells Point, based on NOS observations.

COORDINATES are in U.S. Survey feet referred to the Virginia State Grid (South Zone) and are based on North American datum of 1983.

LAST DREDGED by Cottrell Engineering Corporation during the period 3 December through 13 December 1994 under Corps of Engineers contract No. DACW65-94-C-0104 dated 10 August 1994.

QUANTITY of material within channel template is approx. 480,000 CY.

AREA within channel toe is approx. 59 acres.

PURPOSE: BORROW SOURCE  
FOR OCEAN VIEW DUNE RESTORATION  
AND BEACH NOURISHMENT

FOR PERMIT PURPOSES ONLY

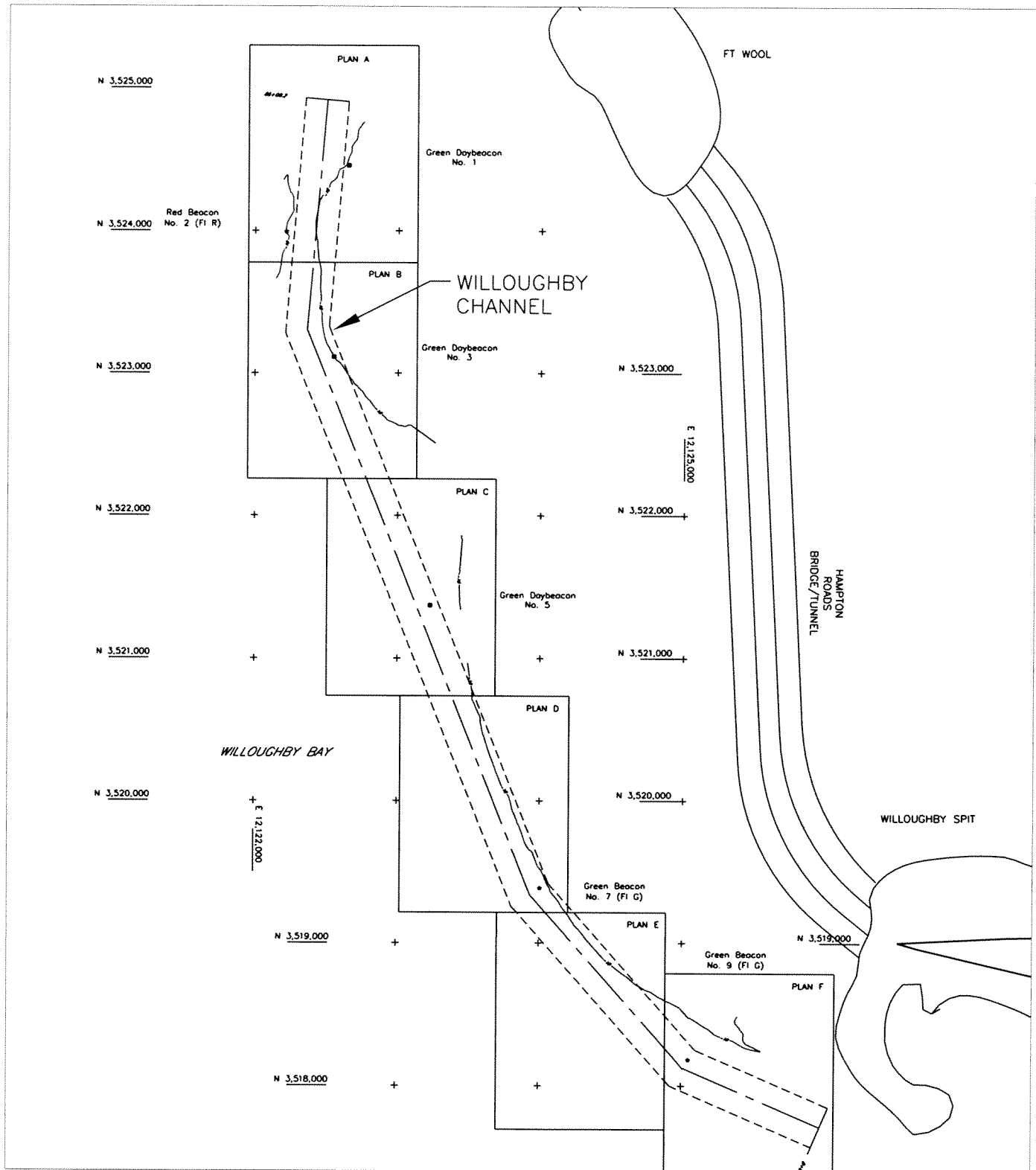
#### VICINITY MAP



CITY OF NORFOLK  
DEPARTMENT OF PUBLIC WORKS  
NORFOLK, VIRGINIA

#### WILLOUGHBY CHANNEL DREDGING

APPLICATION BY: CITY OF NORFOLK,  
DEPARTMENT OF PUBLIC WORKS  
SHEET 1 OF 9 DATE: 7/2004



PURPOSE: BORROW SOURCE  
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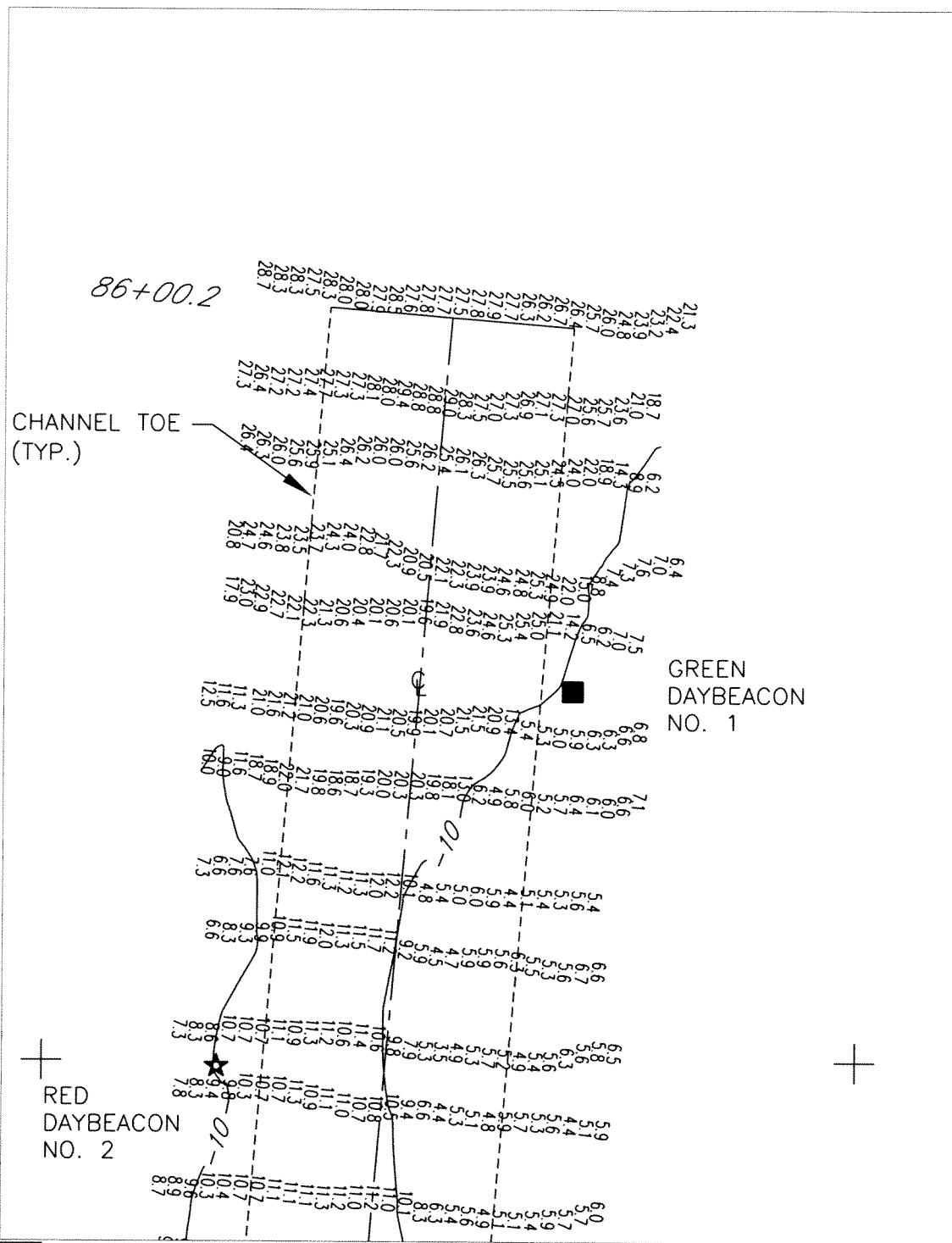
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LOCATION BASEMAP

CITY OF NORFOLK  
DEPARTMENT OF PUBLIC WORKS  
NORFOLK, VIRGINIA

WILLOUGHBY CHANNEL  
DREDGING

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DEPARTMENT OF PUBLIC WORKS  
SHEET 2 OF 9 DATE: 7/2004



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PLAN "A"

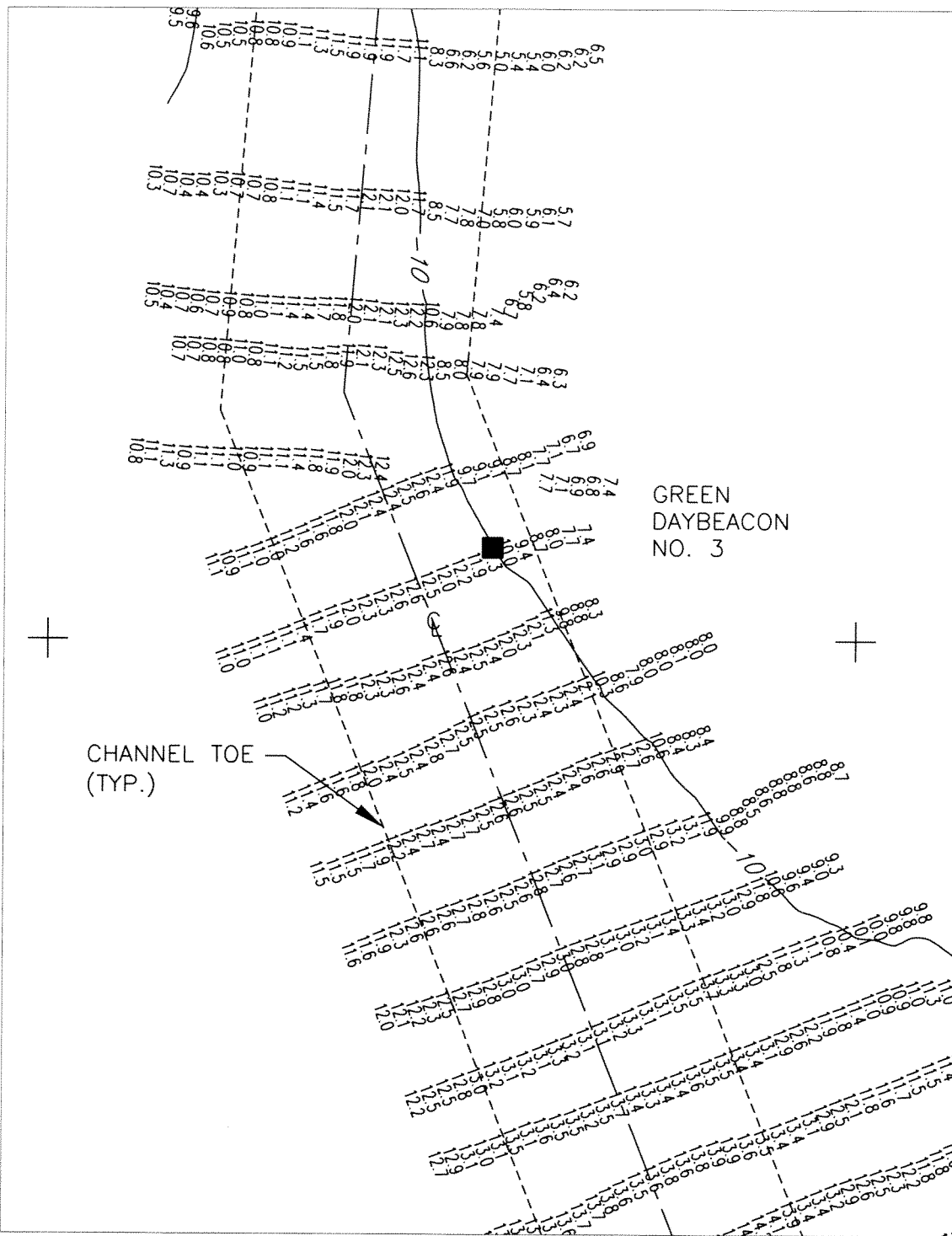
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FEET

CITY OF NORFOLK  
DEPARTMENT OF PUBLIC WORKS  
NORFOLK, VIRGINIA

WILLOUGHBY CHANNEL  
DREDGING

APPLICATION BY: CITY OF NORFOLK,  
DEPARTMENT OF PUBLIC WORKS

SHEET 3 OF 9 DATE: 7/2004



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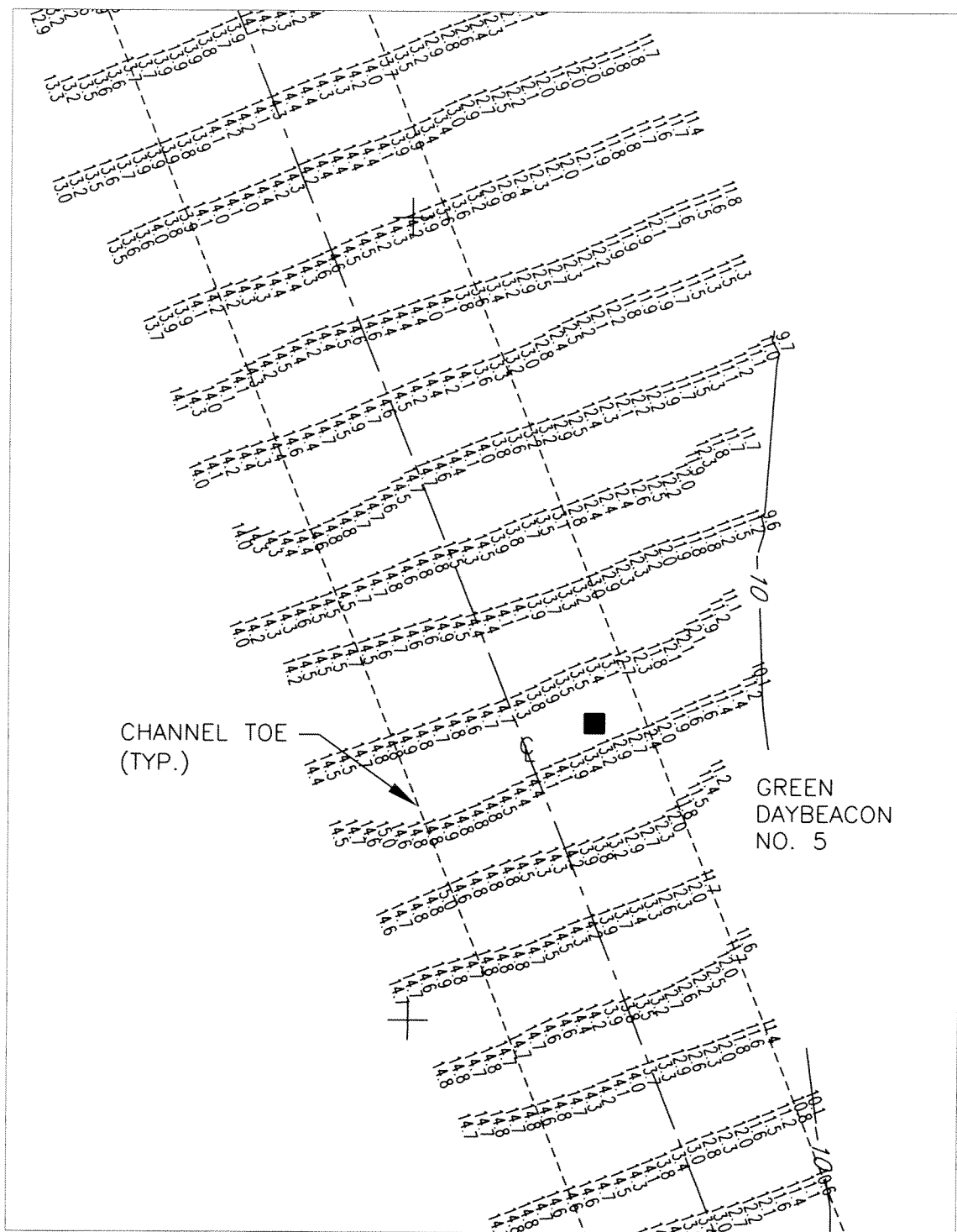
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FEET

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NORFOLK, VIRGINIA

WILLOUGHBY CHANNEL  
DREDGING

APPLICATION BY: CITY OF NORFOLK,  
DEPARTMENT OF PUBLIC WORKS  
SHEET 4 OF 9 DATE: 7/2004



PURPOSE: BORROW SOURCE  
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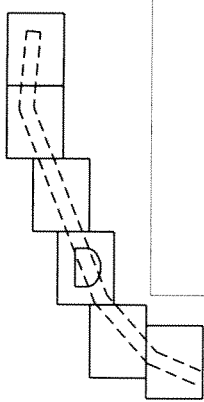
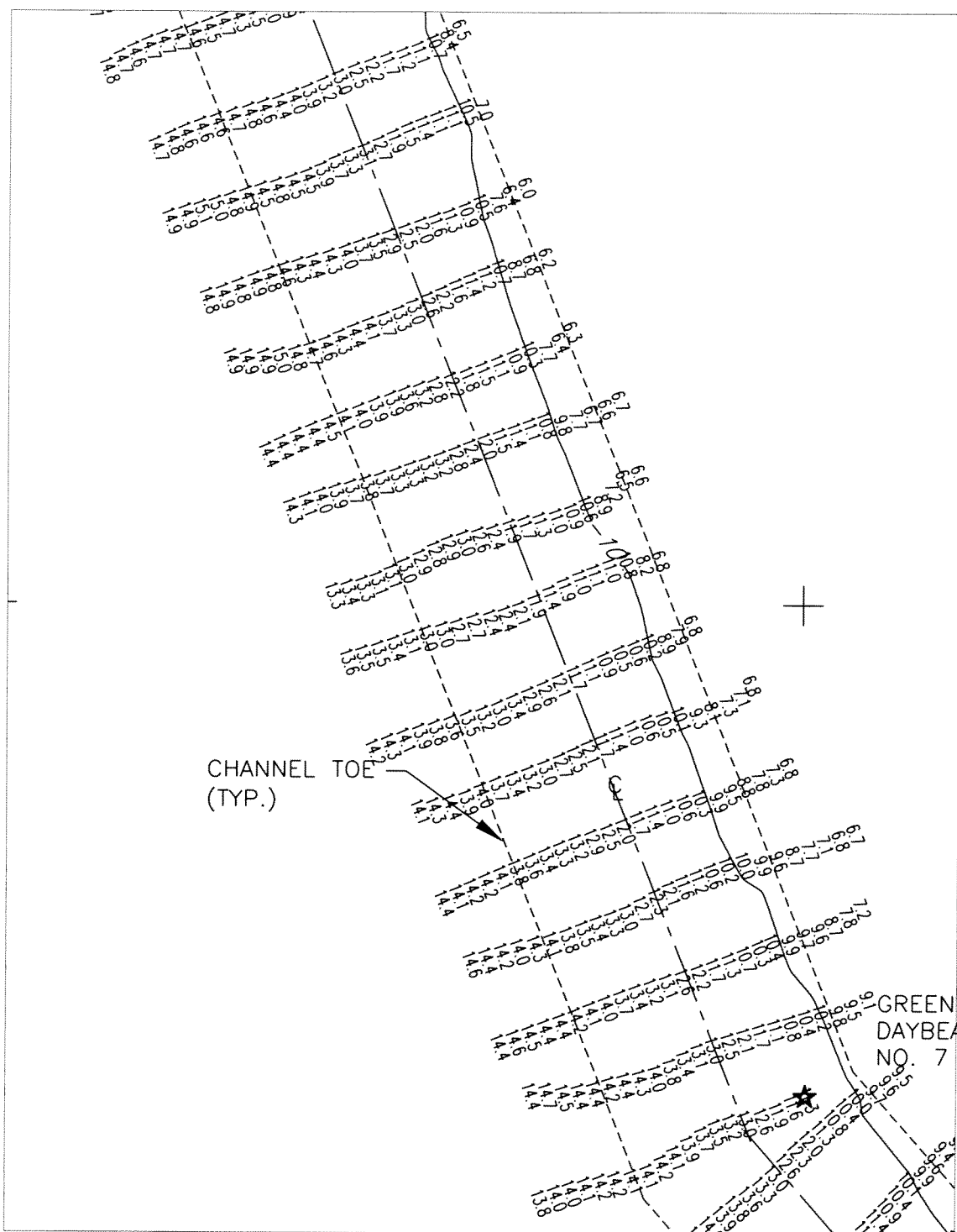
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PLAN "C"  
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FEET

CITY OF NORFOLK  
DEPARTMENT OF PUBLIC WORKS  
NORFOLK, VIRGINIA

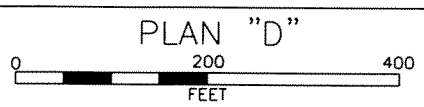
WILLOUGHBY CHANNEL  
DREDGING

APPLICATION BY: CITY OF NORFOLK,  
DEPARTMENT OF PUBLIC WORKS  
SHEET 5 OF 9 DATE: 7/2004



PURPOSE: BORROW SOURCE  
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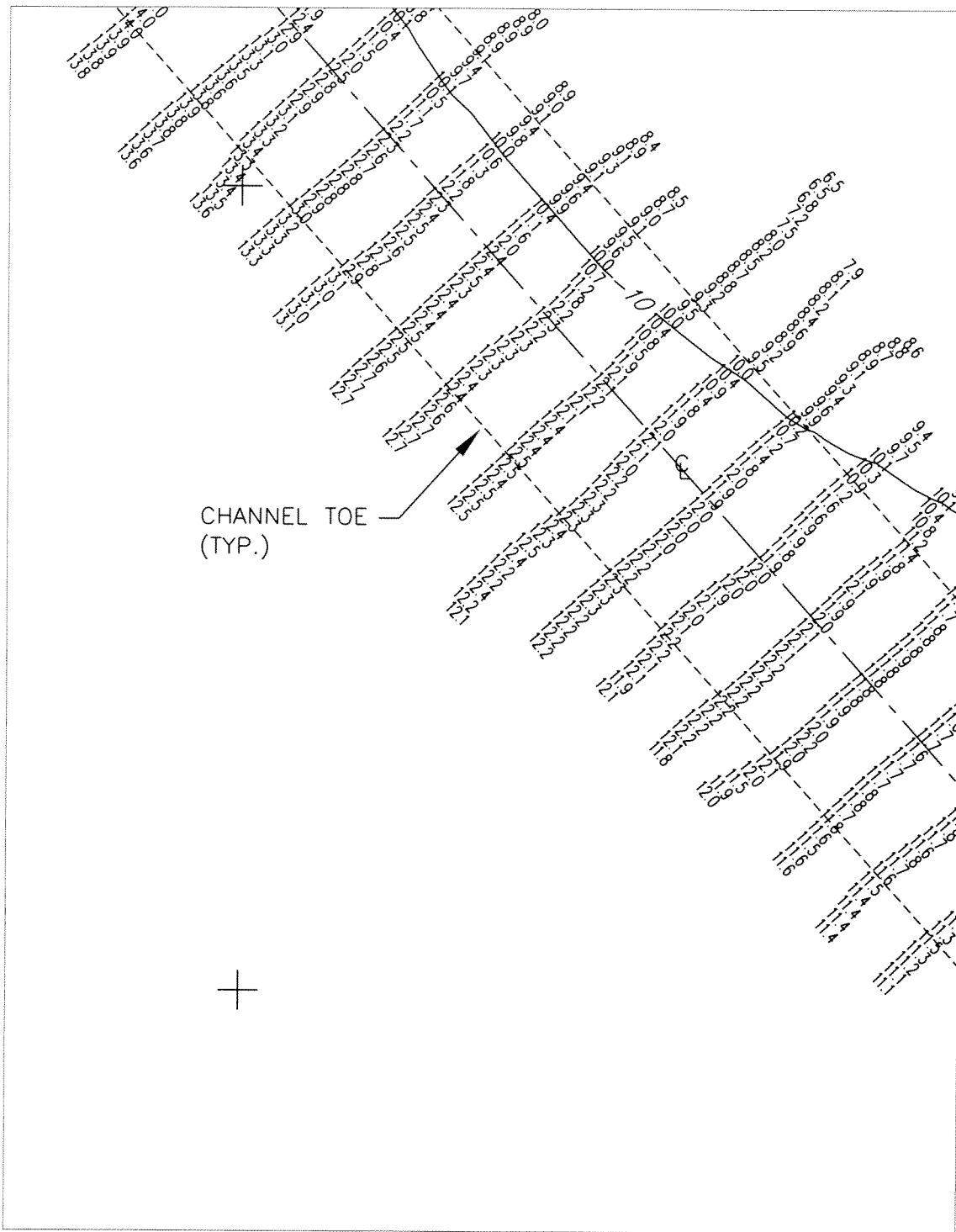
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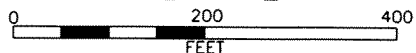
APPLICATION BY: CITY OF NORFOLK,  
DEPARTMENT OF PUBLIC WORKS  
SHEET 6 OF 9 DATE: 7/2004



PURPOSE: BORROW SOURCE  
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PLAN "E"



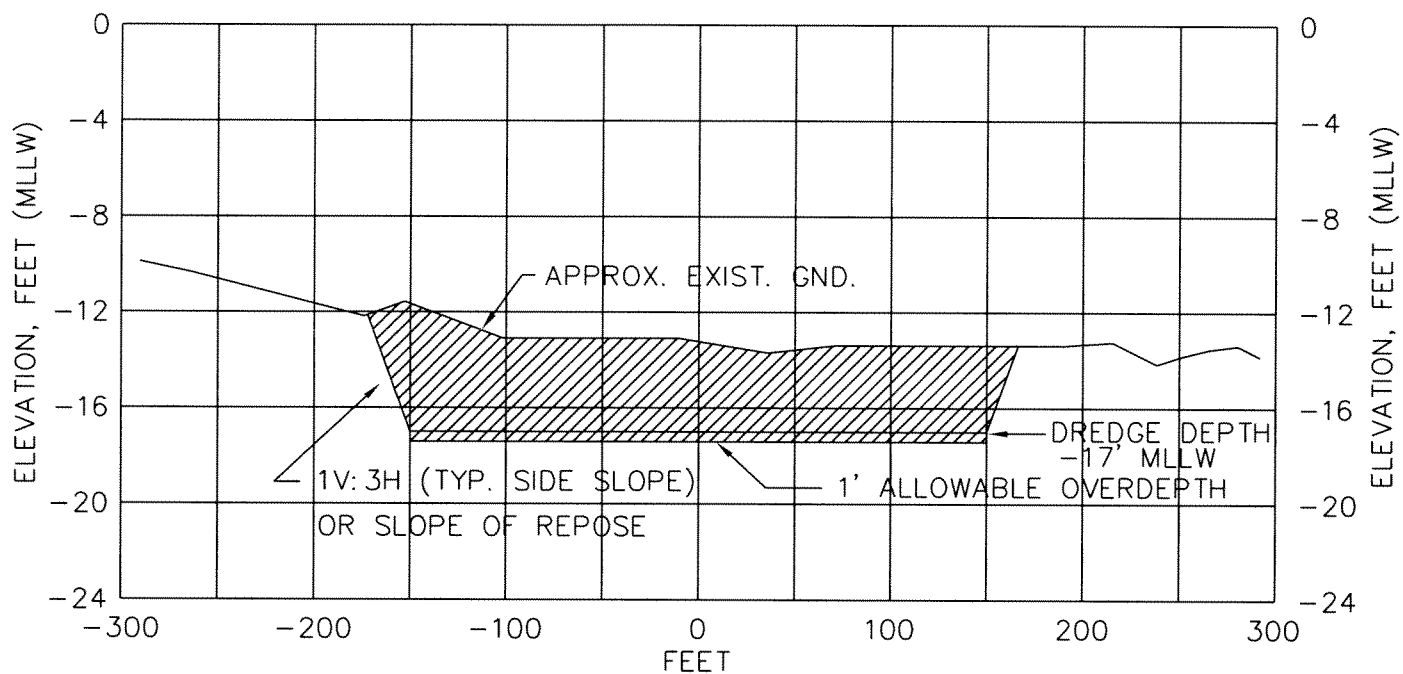
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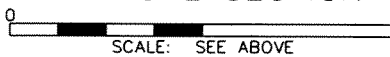


TYPICAL SECTION

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TYPICAL SECTION



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